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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
REGION III

MISSOURI RIVER BASIN INVESTIGATIONS

LAND PLANNING AND CLASSIFICATION REPORT
as Relates to the Public Domain Lands
in the
KNIFE RIVER BASIN
NORTH DAKOTA

(FOR ADMINISTRATIVE USE ONLY)

January 1948

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ACKNOWLEDGEMENTS

This report is largely a recompilation of information and data gathered from all available sources and brought together into one report. The objective has been to assemble as much as possible of the pertinent factual information as could be gathered in the time available as a basis for an analysis of the problems pertaining to the remaining unappropriated and unreserved public lands which lie within the Knife River basin.

The sources of information used include: records of the District Land Office at Bismarck; published reports and notes of the State Engineer, State Water Conservation Board, State Extension Service, State Experimentation Stations and other offices and departments of the State of North Dakota; U. S. Weather Bureau, Bureau of Reclamation, Geological Survey, Soil Conservation Service, Production and Marketing Administration, Bureau of Agricultural Economics and Bureau of Chemistry and Soils; and County offices and records. Much valuable information was derived from the stockmen and ranchers of long residence in the area under study.

The detailed field work was done by L. A. Merryfield, Range Examiner, who examined each tract of public domain determining its vegetative cover, grazing capacity, soil condition, general geology, present use, lease status and existing improvements. The final report and compilations were prepared by Land Economist R. D. Nielson and L. A. Merryfield.

PURPOSE AND SCOPE

The purpose of this study has been to ascertain the basic facts pertinent to the formulation of sound administrative policy for the use and management, or disposition of the public domain lands which remain in this area. With the development of the land and water resources of the Missouri River Basin, it is important to know how the public lands can best be fitted into the coordinated program. The very small percentage of public domain land in the Knife River basin can have but very little influence on the over-all land use economy. Nevertheless, their existence poses certain problems of administration which require prompt attention.

This land classification and inventory has been limited to only the public domain lands and to such surrounding cultural and physical features as may influence their use, development and management.

SUMMARY

The Knife River basin lies between the drainages of the Little Missouri and the Heart River and includes parts of Dunn, Mercer, Billings, Oliver, Stark and Morton Counties, North Dakota. It contains approximately 2,700 square miles, of which 369 acres, or .021%, is public domain. This basin is in the cretaceous table land area of the Great Central Plains Region and has no significant physiographic features. It consists primarily of rolling prairies, broken at intervals by small sections of rough badlands. The elevations range from 1,680 feet at the mouth of the river to 3,600 feet in the Kildeer Mountains. The lands that are suitable for irrigation consist of the alluvial soils in the Knife River valley and its tributaries which consist chiefly of small tracts along the bends of the river and on the terraced benches. The main tributaries of the Knife River are Brush, Coyote, Elm, Willow, Shafer, Spring, Raymond, Cool, Antelope and Goodman Creeks and the Little Knife River.

The area is west of the 100th meridian in the semi-arid prairies where crop returns are uncertain on the unirrigated lands. The winters are apt to be long and cold. The average rainfall is 15.30 inches, 71% of which falls during the growing season; the maximum temperature is 111 degrees and the minimum is minus 48 degrees; the average growing season is 121 days.

The area is characterized by the short grass type of vegetation with blue grama, nigger wool, western wheat grass, June grass and blue grass as the dominant species. Green sage and fringed sage are distributed throughout the area and big sage and valley sage are found along the streams. The soils are in the Williams, Morton and the Rosebud series and are derived from the Fox Hills, Hell Creek, White River, Pierre and Fort Union Geological formations. The soils are not uniform and have not been completely differentiated.

There are no towns in the basin of over 1,000 population, and the total population of the area is 15,111 or 5.6 persons per square mile. The Northern Pacific Railroad which runs along the southern boundary supplies the necessary rail transportation and shipping points for the area.

There are 369 acres of public domain in this unit. Of this, 250 acres are in the short grass type and 119 acres are in the browse type and waste type. The 250 acres of grassland consist of scattered isolated tracts of 40 and 80 acres each and are primarily valuable for grazing. They are surrounded by privately owned lands and used in connection therewith. The 119 acres are located along the Missouri River and consist of sand bars, bayous, cattail swamps and willow patches and contain sharply cut coulees. The tract at present serves primarily as wildlife habitat.

GENERAL DESCRIPTION

Location and Size

The Knife River project area is located between the drainages of the Little Missouri and Heart Rivers and includes that part of the Missouri River drainage lying between the mouth of the Knife and the Little Missouri Rivers, and is in west central North Dakota between 46° 45' and 47° 35' north latitude and between 101° 22' to 103° 10' west longitude, and includes parts of Dunn, Mercer, Billings, Oliver, Stark and Morton Counties.

The Knife River flows for approximately 115 miles in an easterly and northeasterly direction from its source near Grassy Butte and Quinion to where it empties into the Missouri River at Stanton. Spring Creek, the only important tributary of the Knife River, rises near Oakdale and flows in an easterly and southeasterly direction for 65 miles and empties into the Knife River near Beulah. The Knife River drainage basin extends 90 miles east and west and 40 miles north and south and contains approximately 2,700 square miles.

Physiography, Topography and General Geology

This basin is in the cretaceous table land area of the Great Central Plains region with no significant physiographic features. It consists primarily of rolling prairies, broken at intervals by small sections of rough badlands. The elevations range from 1,680 feet at the mouth of the Knife River to 3,600 feet in the Kildeer Mountains, which lie between the Spring Creek-Knife River drainage and the drainages of the Little Missouri River.

The lands which are suitable for irrigation because of topography, soils and drainage, consist primarily of alluvial soils in the Knife River Valley and its principal tributaries. These lands are subdivided into bottom lands and terrace benches. The bottom lands occur on small tracts up to a few hundred acres in size isolated by river bends, cut banks or non-arable areas. The bench lands form larger continuous tracts broken by escarpments and tributary channels.

The drainage system of the Knife River includes the tributaries of Brush Creek, Coyote Creek, Elm Creek, Willow Creek, Shafer Creek, Little Knife River, Spring Creek, Raymond Creek, Cool Creek, Antelope Creek, Goodman Creek and many smaller, unnamed ones.

Climatological Data

The area lies west of the 100th meridian and is in the semi-arid region where the crop returns during the dry years may be very poor over the whole area; however, in relatively wet years good crops may be general. Heavy snow storms, blizzards and prolonged cold spells make it necessary to provide shelter for livestock and to keep sufficient supplementary stock feeds on hand to take care of all the livestock during the emergency periods.

Table #1
Climatic Records as Shown at All Stations in the Area

			Frost-Free Period		Temp.		Precipitation		
Station	Yrs. Operated	Days Grow. Sn.	Last in Spring	First in Fall	Max.	Min.	Growing Season	Total	Location
Dunn Center	34	121	5/21	9/16	111°	-52°	11.29	15.79	N.W.
Zap	13	109	5/28	9/14	108	-50	10.32	14.91	N. Central
Dickinson	40	120	5/20	9/17	114	-47	10.89	15.38	South
Richardton	23	135	5/14	9/26	113	-48	10.70	15.13	S. Central

Vegetative Cover

This area is characterized by the short grass type, the principal species being grama grass (Bouteloua gracilis), nigger wool (Carex filifolia), western wheat grass (Agropyron smithii), slender wheat grass (Agropyron pauciflorum), June grass (Koleria cristata) and several species of Poa. There are traces of green sage (Artemesia discolor), fringed sage (Artemesia frigidida), cudweed sagewort (Artemesia graphalodes), valley sage (Artemesia cana), buck brush (Symphoricarpos occidentalis), wild plum (Prunus) and chokecherry (Prunus) and service berry (Amelanchier).

Soils

The parent material of the soils of this area is the calcareous glacial drift or till, and it is over this drift that the Williams sandy soils in the eastern part of Dunn and Morton Counties, most of Mercer and all of Oliver County, were developed. The dark brown soils of the remainder of the area are known as the Rosebud soils and are derived from the weathering of the parent rock, which is not uniform as is evidenced by the Fox Hills, Hell Creek, White River, Pierre and Fort Union geological formations, which are characteristic of the area. It is well known that the soils of this area are not uniform, but because of the lack of specific information, are grouped under the one heading 1/. There has been no intensive soil survey of any of the counties of this area.

ECONOMIC AND CULTURAL DEVELOPMENT

Population and Settlement

The entire population of this area is supported by farming and ranching and the activities associated with them. There are no manufacturing or mining industries operating in the area except a few local coal

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1/ Soils of the United States, Soil Surveys, Bureau of Chemistry and Soils by C. F. Marbut.

mines that mine lignite coal for local use during the winter months. These employ a maximum of 20 men from the last of November to the end of March or first part of April. Due to the low rainfall, slightly over 15 inches for the year, and the long cold winters, the agriculture and grazing resources of this area can support only a limited population under the present conditions. The populations of the towns are shown in Table #2.

Table #2
Population by Counties and Towns

Dunn County	
Kildeer	650
Dunn Center	238
Werner	137
Halliday	395
Fayette	10
Willmen	4
Emerson	15
Manning (County seat)	113
Hirschville	4
Marshall	6
	1,572
Billings County	
Theisen	4
Snow	4
	8
Stark County	
Taylor	251

Mercer County	
Stanton	370
Hazen	662
Beulah	942
Zap	574
Golden Valley	400
Krem	40
	2,988
Oliver County	
Otter Creek	6
Fort Clark	41
	47
Morton County	
Hebron	1,267
Total Population of Towns	6,113
Total Rural Population of Area (est.)	9,000
Total Population of Area	15,113

The average population is 5.6 persons per square mile.

Public Facilities

The main line of the Northern Pacific Railroad runs along the southern boundary through the towns of Mandan, Hebron, Richardton and Dickinson. While Hebron is the only one within the area, they all serve as important shipping points for the movement of livestock and farm products.

The towns of Stanton, Hazen, Beulah, Zap, Golden Valley, Dodge, Halliday, Werner, Dunn Center and Kildeer are located on a branch line of the Northern Pacific Railroad running from Mandan up the Missouri River to Stanton and west to Kildeer, the railroad terminus. This branchline railroad is

entirely within this project area from Fort Clark to its terminus and serves the area between the Knife River and the Little Missouri River.

Transcontinental telephone and telegraph lines cross the area along the railroads and most of the inland towns are connected with the Bell system. Local telephone connections are afforded by privately-owned lines which reach most of the farms and ranches. Rural electrification covers most of the farming areas and additional lines are planned for areas not yet served. All the towns and 95% of the ranches which do not have commercial electric connections have their own private plants.

U.S. Highway #10 running from Bismarck, North Dakota to Glendive, Montana runs along the south border of this area and is connected with State Highway #22, running north from Dickinson to Kildeer. State Highway #25, running east and west from Fort Clark to Kildeer is connected with U.S. Highway #10 by State Highways 22, 8 and 49. Good county roads connect all the farms and ranches and small settlements with the U.S. and State Highway systems.

Grade school facilities are available to all areas, and there are excellent high schools at Kildeer, Halliday, Dunn Center, Hazen, Beulah, Golden Valley and Hebron within the area, and Bismarck, Mandan and Dickinson just outside the area boundary. The State Normal School is located at Dickinson, and there is an Indian School at Bismarck.

Area Economy

The economic development of this area has probably reached its peak under present conditions; however the irrigation of an additional 15,400 acres as outlined in the Reclamation Plan 1/ in the construction of the Broncho and the Beulah dams with their main canals and laterals, will greatly increase the number of permanently productive units and the productive capacity of the area. A reconnaissance in 1940 indicated that there were some 34,200 acres of arable lands in the basin, but the only possibility for a large scale gravity irrigation system is along the lower 34 miles of the river, and in this reach, a semi-detailed classification indicated that there are 6,300 acres of Class I lands and 9,100 acres of Class II lands, or a total of 15,400 acres to be irrigated. Table #3 shows the average size of farms and ranches by counties, as shown by the Department of Agriculture's 1945 census.

Table #3

Average Size of Farms and Ranches by Counties (1945 Census)

County	Square Miles	Population	Acres Average Size of Ranch	Per Sq. Mi.
Mercer	1,092	9,611	594	8.8
Dunn	2,068	8,376	743	4.1
Billings	1,139	2,531	748	2.2
Stark	1,319	15,414	625	11.7
Oliver	1,170	3,859	645	3.2
Morton	1,933	20,184	630	10.4
	8,721		664	

1/ Summarized Report Knife River Unit - Reclamation, 1945.

Table #4
Size and Type of Farms by Counties

County	Average Size Stock Ranch Acres	Average Size Diversified Ranch Acres	Average Size All Ranches Acres	Average Size Truck Garden Acres
Mercer	4,300	2,900	743	37
Dunn	4,100	3,100	594	19
Billings	7,600	5,400	748	23
Stark	5,000	3,900	645	20
Oliver	4,800	3,600	625	34
Morton	6,600	5,400	630	56

Table #5 shows the number of livestock and their distribution according to the 1945 census and information gathered in the field.

Table #5 1/

	Cattle			Sheep			Horses			Hogs		
County	No. Operators	No.	Av.	No. Op.	No.	Av.	No. Op.	No.	Av.	No. Op.	No.	Av.
Mercer	974	41075	42	85	5541	65	948	6802	7	886	7031	8
Dunn	1228	35267	29	76	7947	104	1204	9008	8	958	3350	3
Billings	364	24485	67	39	2405	62	361	3412	9	282	2071	7
Stark	1188	41133	35	96	8261	86	1138	6326	6	1081	10364	10
Oliver	603	12216	20	47	5286	112	595	3844	6	553	5847	6
Morton	1543	66929	43	145	8501	58	1516	11386	8	1362	14305	11

Table #6
Feed Crop Production 1/
(Oats and Corn Products Mostly Used on Ranches)

	Wild and Tame Hay			Oats			Corn		
County	Acres	Yield	Tons pr A	Acres	Yield	Bu. pr A	Acres	Yield	Bu. pr A
Mercer	49621	48090	.97	15434	282338	18.2	32193	68344	21.2
Dunn	90044	84604	.93	39552	1612812	40.7	2652	68081	25.6
Billings	7732	9535	1.23	8708	358612	41.1	5394	98886	18.3
Stark	33498	30767	.91	38924	1503106	38.6	29905	543204	18.1
Oliver	24415	35778	1.47	24542	1025792	41.8	3298	83430	25.3
Morton	99623	101999	1.02	48696	1967958	40.4	13990	284047	21.4

1/ Figures for entire county--not just the portion within the Knife River Project Area.

Table #7
Merchantable Crops

	Spring Wheat			Winter Wheat			Flax Seed			Alfalfa Seed		
County	Acres	Bu.	Bu. per Acre	A.	Bu.	Bu. per Acre	Acre	Bu.	Bu. per Acre	A.	Bu.	Bu. per Acre
Mercer	132601	2065877	15.6	--	--	--	629	6708	10.7	28	36	1.2
Dunn	1189	164566	13.8	--	--	--	3361	33773	10.	123	134	1.4
Billings	39285	609466	15.5	--	--	--	1641	15132	9.2	40	52	1.3
Stark	78895	897526	11.4	20	250	12	5001	47681	9.5	45	68	1.5
Oliver	75094	1279848	17.1	--	--	--	125	3010	24.01	88	86	.89
Morton	215077	3655061	17.0	69	1050	15.2	6344	57323	9.1	172	314	1.24

Table #8
Other Farm Feed Crops 1/

	Potatoes			Rye			Barley		
County	Acres	Bu.	Bu. pr Acre	Acres	Bu.	Bu. pr Acre	Acres	Bushels	Bu. pr Acre
Mercer	273	1884	67.8	629	6708	10.6	20062	298957	14.9
Dunn	431	33215	71.1	209	2401	11.4	34578	903455	26.1
Billings	99	8422	85.1	336	3312	9.8	9042	243423	26.9
Stark	428	29805	69.6	252	2524	10.	47879	1289413	26.8
Oliver	228	16544	72.5	506	4915	9.7	18358	503501	27.4
Morton	660	48749	73.8	1175	11511	9.8	53805	1375742	25.6

Practically all of the crops raised in this area are raised on dry farms; however, there are a few small acreages of irrigated tracts along the Knife River and Spring Creek. These are used mainly for hay crops, truck farming and gardening. The past six years have been very favorable for dry land farming, and 85% of the county-owned tax delinquent lands has been redeemed and put back into production. This is considered to have been the most prosperous period North Dakota has had; bank clearances are high and the existing mortgage rate is very low. The ranches and farms are well improved and most of them are modernized. A general state of prosperity exists.

Land Ownership

The Public Lands

There are 369 acres of public domain in this unit, none of which is under any form of lease or application. There are no National

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1/ Figures are for entire county, not for just the portion within the Knife River Project Area.

Forests, National Parks, grazing districts, stock driveways or fish and wildlife reservations. There are no Federal or state irrigation projects in operation at this time; however, the completion of the present Reclamation plans for this basin will place 15,400 acres under irrigation, beginning near where the Knife River empties into the Missouri River and extending approximately 37 miles up the river to the proposed site of the Broncho Dam. The public domain amounts to only .039% of the total land area in this project. Acreages of state and county lands were not ascertained; however, there are no state forests or state parks in the project area.

Status checked
6/6/66 TB

THE PUBLIC DOMAIN LANDS

Detailed Description of the Public Land Areas by Tracts

Tract #1 - Township 142 N. Range 90 W.: Section 4: NE¼SW¼ - 40 Acres. ✓

This tract is located in an unfenced grazing area. It supports a short grass type of vegetation with a density of .3 and has a carrying capacity of 15 Animal Unit Months. The soil is a sandy, clay loam of good depth, color and texture. The top soil is 1 to 8" deep and the sub-soil is 2 to 60" deep and probably belongs to the Williams sandy loam, hilly phase. There is no accelerated erosion at the present time. The soil is well protected by a good grass sod. This soil type would be quite vulnerable to wind erosion if the protective vegetative cover were unduly disturbed such as through plowing or over-grazing, and there are small boulders and some gravel scattered over most of the surface. The tract is level to rolling.

It is considered to be in land use capability class 6 which is land not suited for cultivation but is suitable for permanent vegetation for grazing use with no special restrictions except proper range management. At present the tract is considered to be in very good condition. It is used for grazing in connection with other adjacent privately owned lands. There is no available surface water on the land, although ample underground water can be reached at 100 to 200 foot depths. Adjacent private lands furnish ample stock water for full utilization of the forage by livestock. The tract is unleased at the present time. This area in general is underlain by coal, although there are no out-croppings on this tract or in the near vicinity. It has no particular public interest value and could be adequately and properly used and managed in private ownership. It is recommended that it be offered into public sale, with the reservation of the sub-surface rights to the United States Government.

Tract #2 - Township 143 N. Range 89 W.: Section 34: NW¼SW¼ - 40 Acres. ✓

This tract is also located in an unfenced grazing area. It supports a short grass type of vegetation which has a density of .3 and a carrying capacity of 15 Animal Unit Months. The soil is light brown sandy loam and belongs to the Williams sandy loam hilly phase. The top soil is

Eroded away lost

Note: Missed Sec 14 lots 5,6,7,8 & Sec 24 lots 6,7,8,9, W½SW¼ T144N R84W
ctg
Coal with brand Probably island now

2 to 6" deep and the sub-soil is 2 to 48" deep. There is no accelerated erosion. The soil and vegetation are in very good condition. The topography is rolling to hilly. There are no significant surface obstacles.

The land is considered to be in land use capability class 6, being primarily valuable for grazing. It would not support cultivated crops, due to the limited moisture available, and there is no possibility of securing a supply of irrigation water at reasonable costs. Undue disturbance of the protective vegetative cover would result in wind erosion. The tract is now used primarily by trespass horses. It is not under any form of lease. There is no surface water on the tract, and no evidence that any could be developed. Ground water is found in abundance at depths of from 100 to 200 feet. Ample stock water is provided by adjacent land owners. The tract is probably underlain with coal, although there is no evidence of any out-croppings on the area or in the near vicinity. This tract has no particular values from a public interest standpoint. It could be properly used and managed in private ownership, and it is recommended that it be offered for public sale, the sub-surface and mineral rights being retained by the United States Government.

Tract #3 - Township 144 N. Range 84 W.: Section 15: Lots 5, 6, 7 and 8
119 Acres. Patent 35 See pg. 7

This tract lies along the Missouri River and is composed of sand bars, bayous and cattail swamps. In addition to the aquatic vegetation, the area supports dense patches of sand bar willows. The area has no significant value for grazing or for the production of agricultural crops at this time. The soils range from pure sand along the river and on the sand bars to rich light-colored sandy loam in the willow patches to black muck soils in the cattail swamps. The decaying vegetation in the swamp areas is slowly filling the depressions and converting them to fertile lands. The topography is such that irrigation would not be practicable without considerable leveling and drainage which is not considered feasible.

The tract is placed in land use capability class 7, due to the soil condition, drainage and topography and its constant subjection to floods. This tract affords food and shelter for numerous white tail deer, pheasants, ducks and rabbits. The area is unleased at the present time. The highest utility of this tract is probably as wildlife habitat and for use in connection with future flood control programs. It however, does not contribute to any public problems, nor does it necessarily complicate the present administrative problem. It is recommended that these lands be retained in public ownership either for use in connection with wildlife or future flood control projects. There is no evidence of any minerals on the area or in the near vicinity, although it is probably underlain with coal.

Tract #4 - Township 143 N. Range 96 W.: Section 4: E½SW¼ - 80 Acres.

Patented
1128461
DC/Coal

This tract lies along an intermittent tributary of the Knife River, which has water in potholes most of the year. It supports a short grass type of vegetation which has a density of .3 and a carrying capacity of 25 Animal Unit Months. The soil is a dark-colored sandy loam of good structure and is well drained. However, the surface is strewn with large boulders throughout. The topography is irregular and is not suited to irrigated agriculture.

The land is considered to be in land use capability class 6, due to topography and surface conditions. It is therefore considered to be principally valuable for the grazing of livestock. The tract is entirely surrounded by private holdings and is within a fenced pasture and being used jointly with privately owned grazing lands. The tract is unleased at the present time. This entire area is underlain with coal deposits. The tract does not serve any public interest, nor does it contribute to any public problems. There is no accelerated erosion. It could very well be managed in connection with other private lands. It is recommended that it be offered into public sale with reservation to the United States Government for sub-surface rights.

Tract #5 - Township 146 N. Range 86 W.: Section 4: W½SW¼ - 80 Acres.

Patented

This tract is not in the Knife River drainage basin, but is considered in this report due to its close proximity to this unit. The tract supports a short grass type of vegetation with a density of .3 and a carrying capacity of 22 Animal Unit Months. The soil is heavy sandy clay loam. The light brown top soil is 1 to 5" deep and the light to heavy sub-soil ranges from 0 to 30" deep. The tract is well sodded and there is no accelerated erosion. However, erosion could become severe if the vegetative cover were unduly disturbed through over-grazing or plowing. The topography is rolling to rough with small sharp coulees and sand rock out-croppings along the rivers and sides of coulees.

The tract is considered to be in land use capability class 6 because of the irregular topography and the susceptibility of the soil to erosion. The land should be kept in its native vegetation and used for grazing. The tract is at present unleased, and there is no particular use except for a few deer which use the area during the fall, winter and spring months. There is no surface water on the tract. However, ample stock water for its proper utilization for grazing is accessible along the Missouri River. There is no evidence of minerals or coal on the area or in the near vicinity; however, geologists claim this entire area is underlain with coal. This tract of land serves no particular public interest except for incidental wildlife use, and it does not contribute to any public problems. It is recommended that it be offered into public sale with reservation to the sub-surface rights to the United States Government.

Tract #6 - Township 146 N. Range 87 W.: Section 6: SE¼NW¼ - Approximately 10 Acres ✓

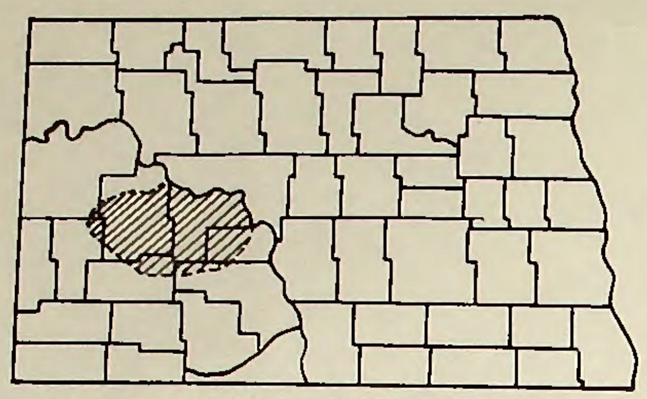
This tract of land which was originally 40 acres, lies along the Missouri River. The changing of the course of the river has reduced this tract to approximately 10 acres, the river occupying the remaining 30 acres. The tract supports a short grass type of vegetation and has a carrying capacity of about 3 Animal Unit Months. The soil is in the Williams loam series in the broken, hilly phase. The top soil is 2 to 10" deep, with sub-soil ranging from 6 to 40" deep. The surface is rocky. The topography is rough.

The tract is considered to be in land use capability class 6, due to the topography and surface conditions. There is no accelerated erosion at the present time. The land is primarily valuable for grazing, although it is unleased. Its present condition is considered good. There is no evidence of any minerals on the area nor in the immediate vicinity, although geologists claim this entire area is underlain with coal. This tract does not contribute to any particular public problems and the ever-changing course of the river may completely wash away the remaining 10 acres, or additional lands may be added to the tract. Future flood control programs may require the use of this area. The land does not materially complicate the administrative problems, and it is recommended that the tract remain in public ownership, pending further developments.

Probably under the
waters of Garrison Dam
see 1:250,000 McClusky map
1958

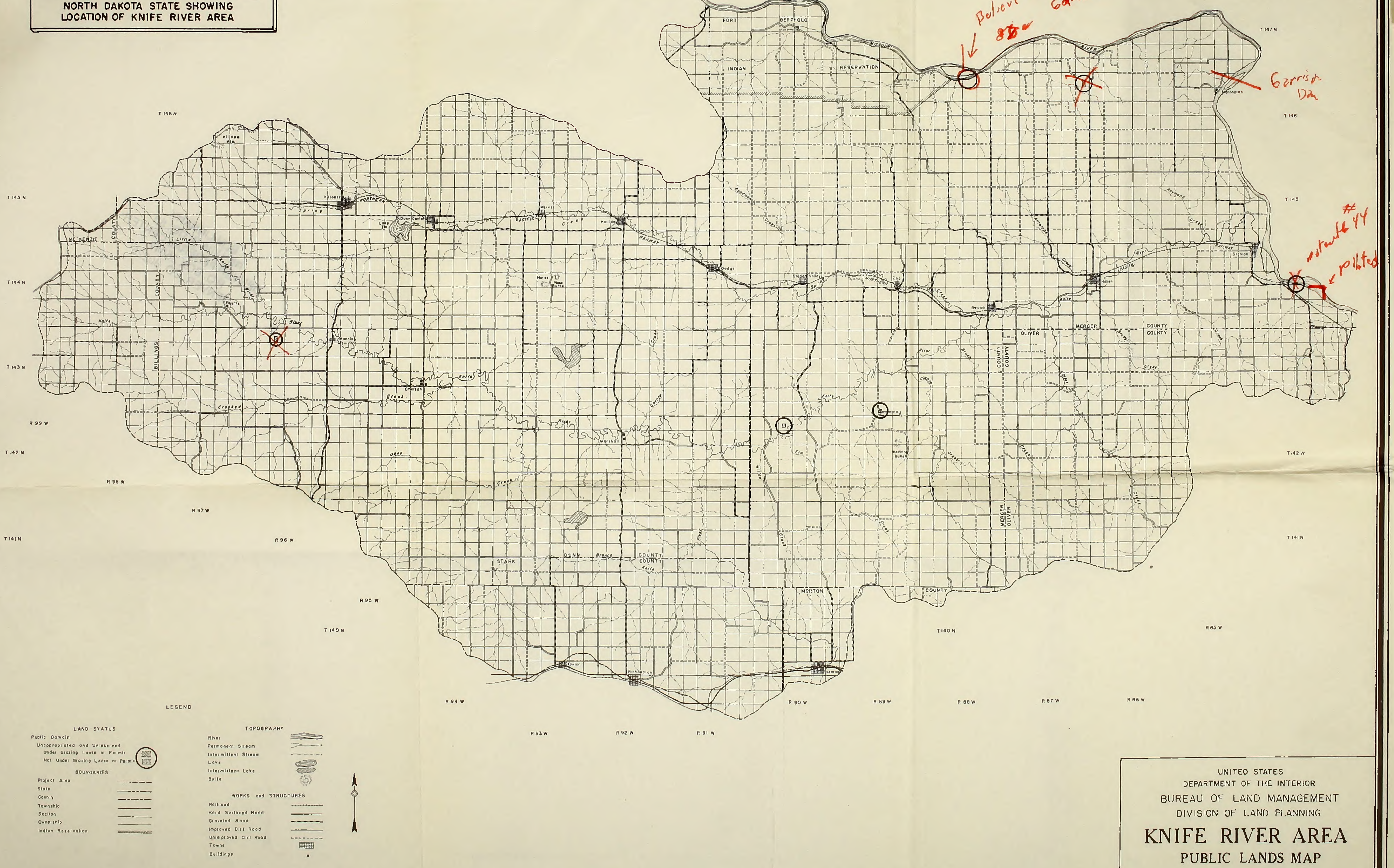
January, 1948.

MISSOURI RIVER BASIN INVESTIGATIONS
BILLINGS, MONTANA



NORTH DAKOTA STATE SHOWING LOCATION OF KNIFE RIVER AREA

X 1966 MT plat [illegible]



Believe This To be under Garrison Dam backwater

[illegible]

Garrison Dam

[illegible] # 44

← plotted

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
DIVISION OF LAND PLANNING

KNIFE RIVER AREA
PUBLIC LANDS MAP
NORTH DAKOTA

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